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DEPARTMENT OF EDUCATION

34 CFR Chapter III

Proposed priority--National Institute on Disability and Rehabilitation Research--Disability and Rehabilitation Research Project--Inclusive Cloud and Web Computing

CFDA Number: 84.133A-01.

AGENCY: Office of Special Education and Rehabilitative Services, Department of Education.

ACTION: Proposed priority.

SUMMARY: The Assistant Secretary for Special Education and Rehabilitative Services proposes a priority under the Disability and Rehabilitation Research Projects and Centers Program administered by the National Institute on Disability and Rehabilitation Research (NIDRR).

Specifically, this notice proposes a priority for a Disability and Rehabilitation Research Project (DRRP) on inclusive Cloud and Web computing. The Assistant Secretary may use this priority for competitions in fiscal year (FY) 2013 and later years. We take this action to focus research attention on areas of national need. We intend this priority to contribute to improved employment outcomes for individuals with disabilities.

DATES: We must receive your comments on or before [INSERT DATE 30 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

ADDRESSES: Address all comments about this notice to Marlene Spencer, U.S. Department of Education, 400 Maryland Avenue, SW., room 5133, Potomac Center Plaza (PCP), Washington, DC 20202-2700.

If you prefer to send your comments by email, use the following address: [marlene.spencer@ed.gov](mailto:marlene.spencer@ed.gov). You must include the phrase "Proposed Priority for Inclusive Cloud and Web Computing" in the subject line of your electronic message.

FOR FURTHER INFORMATION CONTACT: Marlene Spencer.

Telephone: (202) 245-7532 or by email:

[marlene.spencer@ed.gov](mailto:marlene.spencer@ed.gov).

If you use a telecommunications device for the deaf (TDD) or a text telephone (TTY), call the Federal Relay Service (FRS), toll free, at 1-800-877-8339.

SUPPLEMENTARY INFORMATION:

This proposed priority is in concert with NIDRR's Long-Range Plan (Plan). The Plan, which was published in the Federal Register on February 15, 2006 (71 FR 8165), can be accessed on the Internet at the following site:

www2.ed.gov/legislation/FedRegister/other/2006-  
1/021506d.pdf.

Through the implementation of the Plan, NIDRR seeks to: (1) improve the quality and utility of disability and rehabilitation research; (2) foster an exchange of expertise, information, and training methods to facilitate the advancement of knowledge and understanding of the unique needs of traditionally underserved populations; (3) determine best strategies and programs to improve rehabilitation outcomes for underserved populations; (4) identify research gaps; (5) identify mechanisms for integrating research and practice; and (6) disseminate findings.

This notice proposes a priority that NIDRR intends to use for a DRRP competition in FY 2013 and possibly later years. However, nothing precludes NIDRR from publishing additional priorities, if needed. Furthermore, NIDRR is under no obligation to make an award using this priority. The decision to make an award will be based on the quality of applications received and available funding.

Invitation to Comment: We invite you to submit comments regarding this notice. To ensure that your comments have maximum effect in developing the notice of final priority,

we urge you to identify clearly the specific topic that each comment addresses.

We invite you to assist us in complying with the specific requirements of Executive Orders 12866 and 13563 and their overall requirement of reducing regulatory burden that might result from this proposed priority. Please let us know of any further ways we could reduce potential costs or increase potential benefits while preserving the effective and efficient administration of the program.

During and after the comment period, you may inspect all public comments about this notice in room 5133, 550 12th Street, SW., PCP, Washington, DC, between the hours of 8:30 a.m. and 4:00 p.m., Washington, DC time, Monday through Friday of each week except Federal holidays.

Assistance to Individuals with Disabilities in Reviewing the Rulemaking Record: On request we will provide an appropriate accommodation or auxiliary aid to an individual with a disability who needs assistance to review the comments or other documents in the public rulemaking record for this notice. If you want to schedule an appointment for this type of accommodation or auxiliary aid, please contact the person listed under FOR FURTHER INFORMATION CONTACT.

Purpose of Program: The purpose of the Disability and Rehabilitation Research Projects and Centers Program is to plan and conduct research, demonstration projects, training, and related activities, including international activities, to develop methods, procedures, and rehabilitation technology, that maximize the full inclusion and integration into society, employment, independent living, family support, and economic and social self-sufficiency of individuals with disabilities, especially individuals with the most severe disabilities, and to improve the effectiveness of services authorized under the Rehabilitation Act of 1973, as amended (Rehabilitation Act).

Disability and Rehabilitation Research Projects

The purpose of NIDRR's DRRPs, which are funded through the Disability and Rehabilitation Research Projects and Centers Program, are to improve the effectiveness of services authorized under the Rehabilitation Act, by developing methods, procedures, and rehabilitation technologies that advance a wide range of independent living and employment outcomes for individuals with disabilities, especially individuals with the most severe disabilities. DRRPs carry out one or more of the following types of activities, as specified and defined in 34 CFR

350.13 through 350.19: research, training, demonstration, development, dissemination, utilization, and technical assistance.

An applicant for assistance under this program must demonstrate in its application how it will address, in whole or in part, the needs of individuals with disabilities from minority backgrounds (34 CFR 350.40(a)). The approaches an applicant may take to meet this requirement are found in 34 CFR 350.40(b). Additional information on the DRRP program can be found at: [www.ed.gov/rschstat/research/pubs/res-program.html#DRRP](http://www.ed.gov/rschstat/research/pubs/res-program.html#DRRP).

Program Authority: 29 U.S.C. 762(g) and 764(a).

Applicable Program Regulations: 34 CFR part 350.

PROPOSED PRIORITY:

This notice contains one proposed priority.

DRRP on Inclusive Cloud and Web Computing.

Background:

The World Wide Web (Web) has become a fundamental tool for employment, education, civic participation, entertainment, and purchase of goods and services. However, participation in such activities on the Web for people with disabilities lags behind that for the general population. For example, Web use often requires broadband access, but the National Broadband Plan states that only 42

percent of people with disabilities use broadband at home, compared to 65 percent of people nationwide (Federal Communications Commission, 2010).

One reason for this disparity is that the Web infrastructure is not set up to address disability access issues seamlessly across all of its functions (Global Public Inclusive Infrastructure, n.d.). Additionally, software and devices (e.g., computer, smart phone, tablet) used to access the Web are often inaccessible for people with disabilities, and individuals with disabilities have limited access to technical assistance with selecting, setting up, and using appropriate technologies. Furthermore, people with disabilities often are required to purchase separate accessibility software and assistive devices for each device they use to access the Web, which adds to the economic burden of Web use by people with disabilities (Lyle, 2010).

Cloud computing, a technology used to store, access, and process information on the Web, has the potential to enhance Web participation by people with disabilities by providing an infrastructure that better supports accessibility for this population. International efforts are underway to develop a cloud-based infrastructure for the Web that includes options for disability access within

its general structure--a change from the current, more inaccessible structure, where individuals with disabilities must set up their personal Web-enabled devices (e.g., smartphones) to meet their specific needs. The goal of this effort is to enable individuals with disabilities to log onto any Web-enabled device and have their user profiles and accessibility needs automatically recognized and appropriate tools activated, which would reduce the need for individuals to set up assistive technologies on each Web-enabled device they use. Three international projects addressing this need are described at Global Public Inclusive Infrastructure (n.d.), Cloud4all(n.d.), and Fluid (n.d.).

In order to support this effort, NIDRR has identified some (but not all) of the research questions that must be answered (see Table 1), together with possible computer science approaches to addressing them. Answering these and other relevant questions successfully will require collaboration between people with disabilities and experts in both disability and computer science fields relevant to cloud and Web accessibility and structure.

Table 1. Research Questions of Importance in Developing Accessible Cloud and Web Computing Infrastructure



<b>Research Questions</b>	<b>Possible Computer Science Approaches</b>
How to make content and interactions easier to understand for people with mental disabilities	Natural language processing
How to make it easier for people with disabilities to log on to the Web	Authentication technology
How to change the presentation of information on Web pages to respond to difficulties encountered by people with disabilities	Adaptive user interfaces
How to manage user profiles and accessibility options over time, as technology evolves	Federated information management
How to make software more easily modifiable to meet individual needs	Software architecture
How to improve the ability of software tools to identify accessibility problems in documents	Automated user interface testing
How to enable people with disabilities to share accessibility experiences and approaches	Social computing
How to incorporate specific accessibility features (e.g., closed captioning, volume control, video description, screen reader technology, accessible user interfaces) into an inclusive Web infrastructure	Software design
Sources: Jurafsky and Martin (2008); Cranor (2011); Jameson (2009); Haas et al. (2009); Fowler (2004); Li et al. (2007); Erickson (2011); Nielsen-Bohlman et al. (2004); Meiselwitz et al. (2009); Hurst et al. (2011); GPII (n.d.); Brajnik (2009); National Council on Disability (2011); Twenty-First Century Communications and Video Accessibility Act of 2011, P.L. 111-260.	

## References

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Twenty-First Century Communications and Video Accessibility Act of 2011, P.L. 111-260.

PROPOSED PRIORITY:

The Assistant Secretary for Special Education and Rehabilitative Services proposes a priority for a Disability and Rehabilitation Research Project (DRRP) on Inclusive Cloud and Web computing. The DRRP must contribute to the development of an inclusive cloud and Web infrastructure that incorporates options for disability access within its general structure.

To contribute to this initiative, the DRRP must--

(1) Identify, design, prototype, and assess promising methods and systems for, and technical approaches to designing, a cloud and Web infrastructure that addresses

the needs of individuals with disabilities. The DRRP must address at least one of the research questions outlined in Table 1 above. Applicants may also choose to address additional research questions not reflected in Table 1. In that case, the application must fully explain how work on the additional topic or topics proposed by the applicant will advance disability access in cloud and Web infrastructure design.

(2) Conduct knowledge translation activities (e.g., training, technical assistance, dissemination, collaboration) in order to facilitate use of the research results by key stakeholders (e.g., individuals with disabilities, computer scientists, other researchers and software developers working on accessibility technology, policy makers, international partners).

(3) Demonstrate meaningful involvement by key stakeholder groups (e.g., individuals with disabilities, computer scientists, software developers and researchers working on accessibility technology, policy makers, international partners) in order to maximize the relevance and usability of the research conducted under this priority. Involvement may include, but is not limited to, participation in a multidisciplinary research team,

advisory board, focus group, or other participatory action research method.

Types of Priorities:

When inviting applications for a competition using one or more priorities, we designate the type of each priority as absolute, competitive preference, or invitational through a notice in the Federal Register. The effect of each type of priority follows:

Absolute priority: Under an absolute priority, we consider only applications that meet the priority (34 CFR 75.105(c)(3)).

Competitive preference priority: Under a competitive preference priority, we give competitive preference to an application by (1) awarding additional points, depending on the extent to which the application meets the priority (34 CFR 75.105(c)(2)(i)); or (2) selecting an application that meets the priority over an application of comparable merit that does not meet the priority (34 CFR 75.105(c)(2)(ii)).

Invitational priority: Under an invitational priority, we are particularly interested in applications that meet the priority. However, we do not give an application that meets the priority a preference over other applications (34 CFR 75.105(c)(1)).

Final Priority:

We will announce the final priority in a notice in the Federal Register. We will determine the final priority after considering responses to this notice and other information available to the Department. This notice does not preclude us from proposing additional priorities, requirements, definitions, or selection criteria, subject to meeting applicable rulemaking requirements.

Note: This notice does not solicit applications. In any year in which we choose to use this priority, we invite applications through a notice in the Federal Register.

#### Executive Orders 12866 and 13563

#### Regulatory Impact Analysis

Under Executive Order 12866, the Secretary must determine whether this regulatory action is "significant" and, therefore, subject to the requirements of the Executive order and subject to review by the Office of Management and Budget (OMB). Section 3(f) of Executive Order 12866 defines a "significant regulatory action" as an action likely to result in a rule that may--

(1) Have an annual effect on the economy of \$100 million or more, or adversely affect a sector of the economy, productivity, competition, jobs, the environment, public health or safety, or State, local, or tribal

governments or communities in a material way (also referred to as an "economically significant" rule);

(2) Create serious inconsistency or otherwise interfere with an action taken or planned by another agency;

(3) Materially alter the budgetary impacts of entitlement grants, user fees, or loan programs or the rights and obligations of recipients thereof; or

(4) Raise novel legal or policy issues arising out of legal mandates, the President's priorities, or the principles stated in the Executive order.

This proposed regulatory action is not a significant regulatory action subject to review by OMB under section 3(f) of Executive Order 12866.

We have also reviewed this proposed regulatory action under Executive Order 13563, which supplements and explicitly reaffirms the principles, structures, and definitions governing regulatory review established in Executive Order 12866. To the extent permitted by law, Executive Order 13563 requires that an agency--

(1) Propose or adopt regulations only upon a reasoned determination that their benefits justify their costs (recognizing that some benefits and costs are difficult to quantify);



(2) Tailor its regulations to impose the least burden on society, consistent with obtaining regulatory objectives and taking into account--among other things and to the extent practicable--the costs of cumulative regulations;

(3) In choosing among alternative regulatory approaches, select those approaches that maximize net benefits (including potential economic, environmental, public health and safety, and other advantages; distributive impacts; and equity);

(4) To the extent feasible, specify performance objectives, rather than the behavior or manner of compliance a regulated entity must adopt; and

(5) Identify and assess available alternatives to direct regulation, including economic incentives--such as user fees or marketable permits--to encourage the desired behavior, or provide information that enables the public to make choices.

Executive Order 13563 also requires an agency "to use the best available techniques to quantify anticipated present and future benefits and costs as accurately as possible." The Office of Information and Regulatory Affairs of OMB has emphasized that these techniques may include "identifying changing future compliance costs that

might result from technological innovation or anticipated behavioral changes."

We are issuing this proposed priority only upon a reasoned determination that its benefits would justify its costs. In choosing among alternative regulatory approaches, we selected those approaches that would maximize net benefits. Based on the analysis that follows, the Department believes that this proposed priority is consistent with the principles in Executive Order 13563.

We also have determined that this regulatory action would not unduly interfere with State, local, and tribal governments in the exercise of their governmental functions.

In accordance with both Executive orders, the Department has assessed the potential costs and benefits, both quantitative and qualitative, of this regulatory action. The potential costs are those resulting from statutory requirements and those we have determined as necessary for administering the Department's programs and activities.

The benefits of the Disability and Rehabilitation Research Projects and Centers Program have been well established over the years, as projects similar to the one envisioned by the proposed priority have been completed

successfully. Establishing a new DRRP based on the proposed priority would generate new knowledge through research and development and improve the lives of individuals with disabilities. The new DRRP would generate, disseminate, and promote the use of new information that would improve employment opportunities for individuals with disabilities.

Intergovernmental Review: This program is not subject to Executive Order 12372 and the regulations in 34 CFR part 79.

Accessible Format: Individuals with disabilities can obtain this document in an accessible format (e.g., braille, large print, audiotape, or computer disc) by contacting the Grants and Contracts Services Team, U.S. Department of Education, 400 Maryland Avenue, SW., room 5075, PCP, Washington, DC 20202-2550. Telephone: (202) 245-7363. If you use a TDD or a TTY, call the FRS, toll free, at 1-800-877-8339.

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Dated: January 9, 2013

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Michael Yudin,  
Acting Assistant Secretary for  
Special Education and  
Rehabilitative Services.

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